

# OASIS® MCX PRODUCT AND GENERIC METHOD INFORMATION

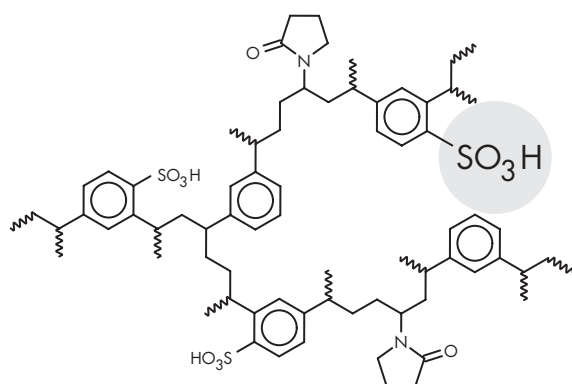
## I. INTRODUCTION

Oasis® MCX extraction products contain a mixed-mode polymeric patented sorbent in 30 µm and 60 µm large particle sizes with reversed-phase and cation-exchange functionalities. The strong cation-exchange sulfonic acid groups are on the surface of the Oasis® HLB sorbent, a poly (divinylbenzene-co-N-vinylpyrrolidone) copolymer. The major difference between the Oasis® HLB and MCX sorbents is the high selectivity of the MCX sorbent for basic compounds.

The cation-exchange groups impart high selectivity for basic drugs allowing you to obtain clean extracts from urine, whole blood, serum, plasma, soils, and water for analysis by HPLC, GC, GC-MS, or LC/MS. The mixed-mode Oasis® MCX sorbent gives high and reproducible recoveries for acidic, basic, and neutral compounds—even if the cartridge runs dry. Therefore, the Oasis® MCX cartridges can be used for all stages of drug monitoring: screening, identification/confirmation, and quantification. The two available particle sizes allow you to select the appropriate product based on the viscosity and turbidity of your sample. For viscous samples, excellent flow can be achieved using the 60 µm large particle size sorbent in either cartridges or plates. Oasis® MCX extraction products are available in cartridges and 96-well plates as listed in the ordering information.

The *Certificate of Analysis* (COA) also contained in this package reports recoveries with RSDs for the weak acid barbitol and neutral drug acetaminophen and the basic compounds amphetamine, toluidine, and procainamide isolated according to the method in Section A. The COA displays results from stringent quality control tests on the batch of polymer sorbent and the lots of packed cartridges.

FIGURE 3: STRUCTURE OF OASIS® MCX SORBENT



Sulfonation of poly(divinylbenzene-co-N-vinylpyrrolidone) is done at a tightly controlled level of 1.0 meq/gram, producing a unique, strong, cation-exchange sorbent.

## SECTION A: GENERIC SPE PROCEDURE FOR OASIS® MCX SORBENT

The Quick Start SPE Procedure for Oasis® MCX (Table 2) sorbent is an excellent starting point for any method. Methods developed on the 1 cc/30 mg cartridges are directly transferable to the 30 mg/well 96-well extraction plates. The procedure also applies to the other 96-well plates as well as µElution plates (refer to recommended volume for generic methods, pg 15).

TABLE 2

NOTE: If necessary, clarify the samples by centrifugation at 8000 X g for 20 minutes prior to loading on the cartridge.

STEPS FOR 1 cc/30 mg CARTRIDGES	PURPOSE
CONDITION/EQUILIBRATE 1 mL methanol/1 mL water	Prepares sorbent for use. Optional step in extracting basic drugs from human urine.
LOAD 1 mL spiked and acidified plasma or urine	At low pH, all bases are in the ionized form for retention by cation-exchange. Neutral and acidic analytes are retained by reversed-phase mechanism.
WASH 1 1 mL 0.1N HCl	Removes proteins and locks basic drugs to sorbent by ion-exchange mechanism.
WASH 2 1 mL 100% MeOH	Removes interferences retained by hydrophobic interaction. Can be used as an elution step for neutral and acidic compounds, if desired.
ELUTE 1 mL 5% NH <sub>4</sub> OH in MeOH	Elutes basic drug(s) of interest.
EVAPORATE AND RECONSTITUTE in 100 µL of an appropriate solvent or solution (optional)	Concentrates sample and/or changes solvent for analysis.